

REMARKS/ARGUMENTS

The present Amendment is in response to the Office Action having a mailing date of May 24, 2004. Claims 1-17 are pending in the present Application. Applicant has amended claims 1, 2, 3, 5, 7, 10, 11, 13, and 15. Applicant has also added claims 18-19. Consequently, claims 1-19 remain pending in the present Application.

In the above-identified Office Action, the Examiner indicated that claims 7 and 15 contain allowable subject matter. Applicant gratefully appreciates the Examiner's indication that claims 7 and 15 contain allowable subject matter.

Applicant has amended claims 7 and 15 to be in independent form. Accordingly, Applicant respectfully submits that claims 7 and 15 are allowable as currently presented.

Applicant has amended claims 1, 2, and 10 to recite that the first word line and each of the first plurality of word lines is a magnetic write line including a core portion and that the core portion includes a soft magnetic material. Support for the amendments to claims 1, 2, and 10 can be found in the specification, page 8 line 20-page 9, line 6. Applicant has amended claims 3 and 11 to recite that the magnetic write line consists of the soft magnetic material. Support for the amendment to claims 3 and 11 can be found in the specification, page 8, line 22-page 9, line 1. Applicant has amended claims 5 and 13 to more clearly recite that the first plurality of lines is isolated from the magnetic element, while the second plurality of lines is electrically connected to the magnetic element. Support for the amendments to claims 5 and 13 can be found in the Figures 5A and 5B of the present application. Applicant has added claims 18 and 19. Claim 18 corresponds to claims 3 and 11. Support for claim 18 can thus be found in the specification, page 8, line 20-page 9, line 6. Claim 19 corresponds to claims 7 and 15. Accordingly, Applicant respectfully submits that claim 19 is allowable as currently presented.

In the above-identified Office Action, the Examiner objected to the specification and the drawings.

Applicant has amended the specification, including page 14, line 19 to change “word line 226” to “word line 225”. Accordingly, Applicant respectfully submits that the Examiner’s objection to the specification has been addressed.

In the above-identified Office Action, the Examiner also objected to Figures 3 and 5B.

Applicant has provided substitute drawing sheets including Figures 3, 4, and 5B. Applicant has amended Figure 3 to specify the bit line 83 and the write line 82. Consequently, Figure 3 corresponds to the written specification. In addition, with respect to the Examiner’s objection regarding the bit line 83 being mentioned in the specification and not depicted in Figure 3, Applicant respectfully draws the Examiner’s attention to page 10, lines 17-21. The cited portion of the specification indicates that the terms word line, bit line, and write line may be considered to be interchangeable. Applicant has removed reference numeral 152 in Figure 4, which was not mentioned in the specification and also redundant with reference numeral 122. Applicant has also amended Figure 5B so that reference numerals 226 and 228 point to different structures. Accordingly, Applicant respectfully submits that the Examiner’s objection to the drawings has been addressed.

In the above identified-Office Action, the Examiner objected to the drawings because they are incomplete. In particular, claims 5 and 13 recite a second plurality of write lines that were electrically isolated from the magnetic element. Applicant has amended claims 5 and 13 to recite that the second plurality of write lines are electrically connected to the magnetic element, while the first plurality of write lines are electrically isolated from the magnetic element. Consequently,

claims 5 and 13 are supported by the specification and Figures 5A and 5B. Accordingly, Applicant respectfully submits that the Examiner's objected to the drawings has been addressed.

In the above-identified Office Action, the Examiner also rejected claims 1, 2, and 10 under 35 U.S.C. § 102 or, in the alternative under 35 U.S.C. § 103 as being anticipated by or unpatentable over U.S. Patent No. 5,956,267 (Hurst). The Examiner also rejected claims 1-6, 8, 10-14, and 16 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent Application Publication 2004/0075125 (Asao).

Applicant respectfully traverses the Examiner's rejection of claims 1, 2, and 10 as being anticipated by or obvious in light of Hurst.

Independent claim 1 recites that the first write line is a magnetic write line including a core portion and that the core portion includes a soft magnetic material. Claim 1 further recites that at least a portion of the second write line is covered by an insulating layer and that a magnetic layer covers at least a portion of the insulating layer such that the portion of the insulating layer resides between the magnetic layer and the second write line. Claims 2 and 10 recite analogous magnetic memory and method, respectively.

Applicant agrees that the cited portions of Hurst describe the use of a soft magnetic cladding 30 that may be electrically isolated from a conductive layer 50 by a barrier layer. See Figs. 8 and 11 of Hurst. However, Applicant has found no indication in the cited portions of Hurst that the conductive line 50, or any other write line, includes a core having a magnetic material. Consequently, Hurst fails to teach or suggest this feature of claims 1, 2, and 10. Accordingly, Applicant respectfully submits that claims 1, 2, and 10 are allowable over the cited references.

The Examiner also rejected claims 1-6, 8, 10-14, and 16 under 35 U.S.C. § 103 as being unpatentable over Asao.

Applicant respectfully traverses the Examiner's rejection. As discussed above, claim 1 recites that the first write line is a magnetic write line including a core portion and that the core portion includes a soft magnetic material. Claim 1 further recites that at least a portion of the second write line is covered by an insulating layer and that a magnetic layer covers at least a portion of the insulating layer such that the portion of the insulating layer resides between the magnetic layer and the second write line. Claims 2 and 10 recite analogous magnetic memory and method, respectively.

Applicant agrees that the cited portions of Asao describe the use of magnetic cladding, termed a "yoke" by Asao, is used in two sets of write lines. However, Applicant has found no mention in the cited portion of Asao of using a write line having a core including at least one magnetic material. Consequently, Asao fails to teach or suggest this feature. Asao thus fails to teach or suggest the magnetic memory cell, magnetic memory, and method recited in claims 1, 2, and 10. Accordingly, Applicant respectfully submits that claims 1, 2, and 10 are allowable over the cite references.

Claims 3-6 and 8-9 depend upon independent claim 1. Claims 11-14 and 16-17 depend upon independent claim 10. Consequently, the arguments herein apply with full force to claim s3-6, 8-9, 11-14, and 16-17. Accordingly, Applicant respectfully submits that claims 3-6, 8-9, 11-14, and 16-17 are allowable over the cited references.

Although the Examiner did not provide specific reasons why claims 9 and 17 were rejected, Applicant respectfully submits that claims 9 and 17 are allowable as currently presented. In

particular, claims 9 and 17 depend upon claims 2 and 10, respectively. Consequently, the arguments herein apply with full force to claims 9 and 17. Accordingly, Applicant respectfully submits that claims 9 and 17 are allowable as currently presented.

New claims 18 and 19 are allowable as presented. Claim 18 depends upon claim 1. Consequently, the arguments herein apply with full force to claim 18. Moreover, claim 19 corresponds to claims 7 and 15, which the Examiner had previously indicated were allowable. Accordingly, Applicant respectfully submits that new claims 18-19 are allowable as presented.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,

SAWYER LAW GROUP LLP

August 24, 2004
Date


Joseph A. Sawyer, Jr.
Attorney for Applicant(s)
Reg. No. 30,801
(650) 493-4540